

WHAT IS CLAIMED IS:

1. A wafer staging platform for a wafer inspection system comprising:  
a first platform for holding a first wafer;  
a second platform aligned with the first platform, the second platform for holding a second wafer;  
wherein the first and second platforms are in close proximity to a processing platform.
2. The wafer staging platform of claim 1, wherein the first wafer has not been processed.
3. The wafer staging platform of claim 1, wherein the second wafer has been processed.
4. The wafer staging platform of claim 1, further comprising:  
a vacuum system for holding the first wafer on the first platform and the second wafer on the second platform.
5. A handling system for a wafer inspection system comprising:  
a wafer processing platform;  
a wafer staging platform; and  
a robot configured to move wafers between the wafer processing platform and the wafer staging platform.
6. The handling system of claim 5, further comprising:  
a loadport for storing a plurality of wafers;  
wherein the robot moves the wafers between the loadport and the staging platform.

7. The handling system of claim 6, wherein the loadport comprises a wafer cassette for storing a plurality of wafers.
  8. The handling system of claim 5, further comprising:  
a pre-aligner for aligning wafers prior to inspection;  
wherein the robot moves the wafers between the pre-aligner and the staging platform.
  9. The handling system of claim 5, wherein the staging platform comprises at least two platforms each for holding a wafer.
  10. The handling system of claim 5, wherein the staging platform comprises a vacuum system for holding wafers in place on the staging platform.
  11. The handling system of claim 5, further comprising:  
a sensor to determine if a wafer is present on the staging platform.
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12. The handling system of claim 11, wherein the staging platform comprises the sensor.
  13. The handling system of claim 11, wherein the sensor comprises an optical sensor.
  14. The handling system of claim 11, wherein the sensor comprises a vacuum sensor.
  15. A method for swapping samples in a wafer inspection system comprising:  
providing a sample processing platform;  
providing a first and second sample holder in close proximity to the sample processing platform;

providing a robot to move samples between the sample processing platform and the first and second sample holders;  
moving a first sample from the sample processing platform to the first sample holder; and  
moving a second sample from the second sample holder to the sample processing platform.

16. The method of claim 15, further comprising:  
providing a loadport; and  
moving the first sample from the first sample holder to the loadport.
17. The method of claim 16, further comprising:  
providing a pre-aligner; and  
moving a third sample from the loadport to the pre-aligner.
18. The method of claim 16, wherein moving the first sample from the first sample holder to the loadport occurs while the second sample is being processed on the processing platform.
19. The method of claim 17, wherein moving the third sample from the loadport to the pre-aligner occurs while the second sample is being processed on the processing platform.
20. The method of claim 17, further comprising:  
moving the third sample from the pre-aligner to the second sample holder.
21. The method of claim 20, wherein moving the third sample from the pre-aligner to the second sample holder occurs while the second sample is being processed on the processing platform.